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Review of Agency's IT Architecture
Agency IT Architecture

North Dakota Unified Judicial Branch (JBITD) Technical Environment
The North Dakota Court's technical environment consists of Windows based desktops, Citrix based thin clients and a variety of server platforms connected via an IP based network. Desktop support is provided through the SCAO by JBITD. Wide Area Network (WAN) service is provided by ITD.

Programming languages
      ASP.Net
      VB
      C#
      SQL
      HTML
      Crystal Reports
      RPG ILE (Integrated Language Environment)

Operating systems
      Windows 2000, 2003, XP, CE
      Microsoft IIS (Version 5 and 6) Web Server
      Windows 2000 and 2003 Server
      Citrix (five Citrix servers supporting 250 clerks' thin client devices)
      OS/400 V5R3

Databases
      IBM DB2 UDB (supporting UCIS)
      Microsoft SQL 2000 and 2005 (supporting the data warehouse.)
      Oracle 10g used for Juvenile Case Management System

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Desktop Environment

The desktop environment includes HP thin client computers running Windows CE and Intel desktops running Windows XP.

Network Services

Network is provided through ITD via the State's ATM dual-Sonet network, with T1 connectivity to all courthouses, up to and including the router.

Server Platforms

UCIS is hosted on an IBM iSeries 810 managed and supported by the JBITD. UCIS is written in RPG. The 810 is configured with:

2466 processor (1020 CPW, maximum interactive)
8GB memory
175GB usable disk (50% utilized)

The data warehouse is hosted on a Windows 2000 server and is managed and supported by JBITD. The data warehouse is created and updated by automatic replication of relevant UCIS data in real time to a dedicated Windows 2003 server. The data warehouse is then used by a number of stakeholders, i.e., judges, media, and public, to search and retrieve information in read-only mode.

Several other servers exist to support network faxing, help desk software, IIS, security, data etc. All servers are Windows 2000 or Windows 2003.

Web Environment

SCAO has both an intranet and Internet server to support a variety of applications.

Directory Services

The SCAO completed implementation of an Active Directory structure in June 2006. The SCAO retains all control and administration of this Active Directory system. The environment includes two Active Directory servers physically located in the JBITD office that include domain controllers, global catalog servers, and LDAP servers using Microsoft Windows 2003 Server technology. NDCOURTS.GOV is a single domain, single forest, and a multiple OU structure. Each Judicial Administrative Unit has its own OU with a child OU for each judicial district.

Data Backup

Backup services are provided by JBITD. Some Windows servers still have their own tape drives. The servers that have their own tape drives are located in the courthouses in the WAN and are used only for digital audio recordings from the courtrooms. Backing-up data over the WAN can be challenging at times because of the unknown bandwidth during the night in these counties.

The iSeries (AS/400 located in the JBITD server room) has its own tape backup software and tape drive. It does nightly full system backups.

The Windows servers located in the JBITD server room are backed up by a central Windows server. This server backs up the various Windows servers over night to a virtual tape drive unit. The virtual tape is then off loaded to physical tape after all the backups have been completed.

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Email Environment

The Judicial Branch supports their Microsoft Exchange 2003 email system on the NDCOURTS.GOV domain. JBITD has only one Exchange 2003 server supporting about 450 email boxes.

North Dakota ITD Technical Environment

North Dakota Court's technical environment consists of Windows based desktops and a variety of server platforms connected via an IP based network. Desktop support is provided by the JBITD with ITD providing the state-wide network. Currently ITD only provides the Judicial Branch with Network Services.

Desktop Environment

The *de facto* desktop standard is an Intel platform running some variety of Windows. Windows 2000 and Windows XP are the most common.

Network Services

ITD provides both local and wide area network services for State Government. All LAN segments are switched 100 megabit Ethernet networks. The Fargo and Bismarck metropolitan area networks are gigabit fiber based while the majority of WAN connectivity is obtained via ATM T1s. The core of the WAN consists of a SONET ring. End User support is provided through a central help desk; this service is available 24x7x365.

JBITD Service Providers

The JBITD utilizes non-employee service providers only on a short-term contract basis for specific projects. Internal JBITD staff provide all network, database management, programming, training and support services for the North Dakota Court System. The staff consists of:

1 – Director of Technology
3 – Network Analysts
4 – Programmer Analysts
1 - Technology Coordinator
1 – Help Desk Support

Planned Infrastructure Activities and Changes

Replace the Unified Court Information System

On-going maintenance consists of: costs to maintain servers and hardware to continue current case management system until new management system is fully implemented
Planned changes consist of: migration from physical servers to blade technology and the use of virtual servers to support the network needs of the new case management system

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Maintain and enhance the Juvenile Case Management System and Jury Management System to meet the evolving needs of the Judicial Branch

On-going maintenance consists of: Costs to maintain software licenses, service contracts, servers and hardware
Planned changes consist of: costs to replace servers and hardware as dictated by retention schedule or early equipment failure

Evaluation and implement appropriate technology solutions to reduce the cost of ownership for personal computers and information systems

On-going maintenance consist of: costs to maintain current citrix, licenses, servers, and hardware
Planned changes consist of: costs to replace servers and hardware as dictated by equipment failure

Evaluate and implement appropriate technology advancements to enhance end-user training

On-going maintenance consists of: costs to maintain video-conferencing systems and to replace as dictated by equipment failure
Planned changes consist of: purchase of web-meeting services as needed

Replace IT equipment according to an established replacement schedule and as necessary

On-going maintenance consists of: costs to maintain service contracts on individual assets or a class of assets
Planned changes consists of: costs to replace equipment as dictated by the retention schedule or early equipment failure

Maintain current versions of software applications that meet the needs of end-users, are supported by the seller, and are compatible with current operating system and network requirements

On-going maintenance consists of: Costs to maintain current software licenses
Planned changes consist of: upgrade software as new machines are purchased or as dictated by business needs

Evaluate and implement appropriate technology advancements to reduce number of physical servers

On-going maintenance consists of: costs to maintain current virtual server
Planned changes consist of: costs to purchase more virtual servers and reduce physical servers

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1. **If applicable, describe the reason for any extraordinary increase or decrease in your infrastructure costs.**

2. **Total number of desktop computers:**   532
   Number of desktops for which you are requesting replacement funding: 266
   Average replacement cost/desktop: 621

3. **Total number of laptop computers:**   99
   Number of laptops for which you are requesting replacement funding: 49
   Average replacement cost/laptop: 1,680
What state planning region are these desktop/laptop computers located?
Region 1   26 **2**   82 **3**   43 **4**   101 **5**   113 **6**   71 **7**   162 **8**   33

4. **What percentage of these pcs are running the following operating systems:**
       (total should be equal to 100%)
Open Source OS   0 %
MAC OS   0 %
Windows Vista   0 %
Windows XP   100 %
Other   0 %

5. **What additional expenditures are being paid out of non-appropriated funds?**   0
Please explain:

IT Asset Management Plan
The infrastructure component includes all the costs necessary to maintain the current systems of the Judicial Branch, including:
Hardware and software replacement costs;
Maintenance agreement estimates for hardware, software and systems;
Maintenance and upgrades to video conference systems and voice recording systems;
Budget for items paid to the Executive Branch Information Technology Department (ITD) for telecommunications, telephone and technology-related items;
Disaster recovery items;
Necessary network infrastructure not purchased from ITD;
All other technology related items not included elsewhere.

Replacement:

All computers (desktops/workstations) - 4 years

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Servers - 4 years
All other IT assets such as printers, citrix thin clients, and similar types of assets are replaced when needed

There is an assumed asset failure rate of 20%.
Software will be upgraded when PCs are replaced, however software may be replaced sooner if newer versions provide functionality that enhances end-user productivity.

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		CURRENT APPROPRIATION	BUDGET REQUEST	OPTIONAL ADJUSTMENTS	REQUEST PLUS OPTIONALS	SUBSEQUENT BIENNIUM
IT5110	SALARIES - PERMANENT	$0	$1,407,600	$0	$1,407,600	$0
IT5160	FRINGE BENEFITS	$0	$464,822	$0	$464,822	$0
IT5310	IT SOFTWARE AND SUPPLIES	$393,119	$367,509	$0	$367,509	$367,509
IT5510	IT EQUIPMENT UNDER $5000	$506,183	$645,057	$0	$645,057	$645,057
IT6010	IT DATA PROCESSING	$924,018	$977,535	$0	$977,535	$977,535
IT6020	IT COMMUNICATIONS	$456,223	$462,212	$0	$462,212	$462,212
IT6030	IT CONTRACT SERVICES & REPAIRS	$787,404	$1,538,219	$0	$1,538,219	$1,538,219
IT6930	IT EQUIPMENT OVER $5000	$126,041	$109,088	$0	$109,088	$102,539
	Total Budget:	**$3,192,988**	**$5,972,042**	**$0**	**$5,972,042**	**$4,093,071**
001	STATE GENERAL FUND	$3,192,988	$5,972,042	$0	$5,972,042	$4,093,071
	Total Funding:	**$3,192,988**	**$5,972,042**	**$0**	**$5,972,042**	**$4,093,071**

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Agency Priority - 1   **Project Type:** New initiative   **Age of Current Application:** 18

Project description

This project seeks to replace the current case management system used by the ND Judicial Branch. The current case management system was developed nearly 20 years ago in Scot County Minnesota. While it has served the Judicial Branch very well, replacement is required in order to continue to meet the increasing and changing demands of the Judicial Branch and the public.

Briefly describe the business need or problem driving the proposed project.

The needs of the Judicial Branch are changing such that the current system architecture cannot meet those needs. For example:

* Many additional groups of people desire access to the system, but the security design of the system does not allow for varied groups;
* The forms and document processing capabilities are limited;
* Web-based access is difficult to implement;

Describe how the project is consistent with the organizations mission.

The mission of the Judicial Branch is to resolve disputes with justice and efficiency. A new, fully functional, robust case management system will aid in processing cases efficiently. The system must integrate with numerous governmental systems, provide management information to judges, court personnel, justice personnel and the public.

Describe the anticipated benefits of the project and who will derive the benefits.

The benefits of providing an updated case managment system are detailed in the Narrative.

Describe the impact of not implementing the project.

The Judicial Branch will rely its existing, aging case management system, which is not meeting the current demands being placed on the system.

Identify any risks associated with implementing this project and explain how the risks will be mitigated.

The risks are detailed in the Narrative.

Describe the additional costs?

Per Information Technology Department recommendation, a management reserve fund has been set up for unexpected costs related to the UCIS replacement project that fall outside the contract.

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Enter any additional costs for the project that are not included in IT Object Codes used in the Project Cost Screen?

Additional Costs? - $600,000

Optional Project Costs -

Total Project Cost? -   **$7,258,129**

Tot Proj Costs + Optionals -   **$7,258,129**

What additional expenditures are being paid out of non-appropriated funds?

NA

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		CURRENT APPROPRIATION	BUDGET REQUEST	OPTIONAL ADJUSTMENTS	REQUEST PLUS OPTIONALS	SUBSEQUENT BIENNIUM
IT5310	IT SOFTWARE AND SUPPLIES	$0	$1,499	$0	$1,499	$0
IT5510	IT EQUIPMENT UNDER $5000	$175,000	$0	$0	$0	$0
IT6030	IT CONTRACT SERVICES & REPAIRS	$1,200,000	$5,339,360	$0	$5,339,360	$540,000
IT6930	IT EQUIPMENT OVER $5000	$0	$1,917,270	$0	$1,917,270	$0
	Total Budget:	**$1,375,000**	**$7,258,129**	**$0**	**$7,258,129**	**$540,000**
001	STATE GENERAL FUND	$1,375,000	$7,258,129	$0	$7,258,129	$540,000
	Total Funding:	**$1,375,000**	**$7,258,129**	**$0**	**$7,258,129**	**$540,000**